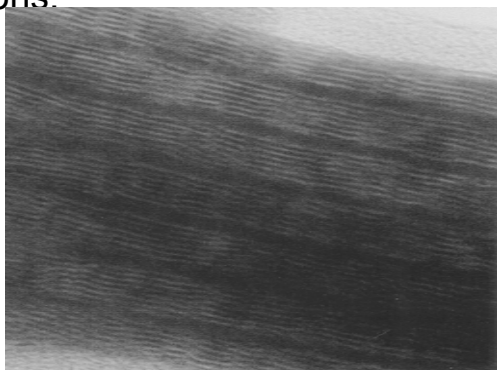


Synthesis of and Structure-Function Relationships in Heterostructures of Quazi-2D Materials

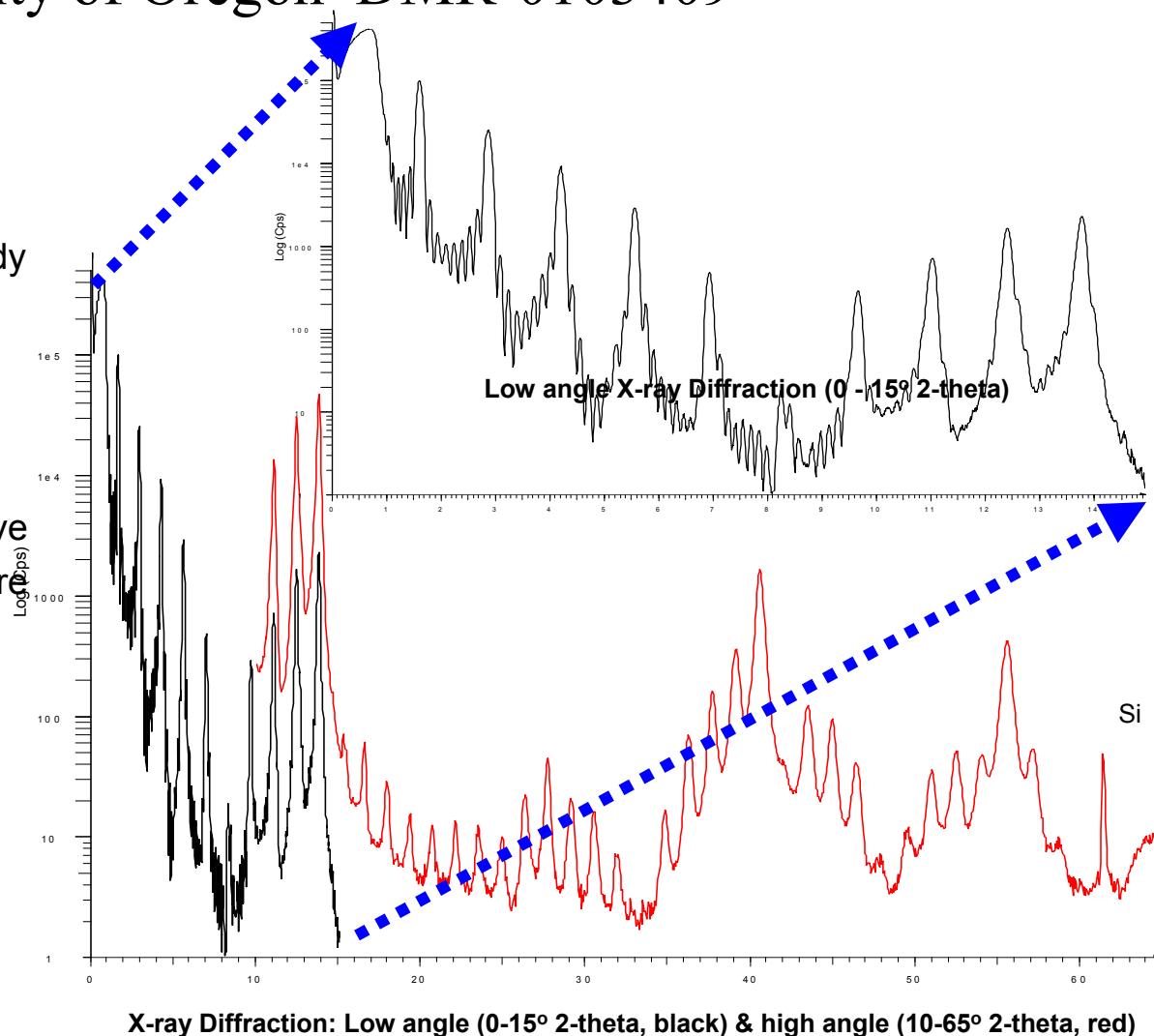
David Johnson, David Cohen and Stephen Kevan

University of Oregon DMR-0103409

This year we have successfully prepared heterostructures incorporating two different crystal structure of building blocks (W – body centered cubic, WSe_2 – hexagonal layer). The diffraction pattern shows the many $00l$ diffraction orders observed. Samples with different thicknesses of both WSe_2 and W have been prepared. The smooth layers are clearly observed in TEM cross-sections.



20 nm



Synthesis of and Structure-Function Relationships in Heterostructures of Quazi-2D Materials

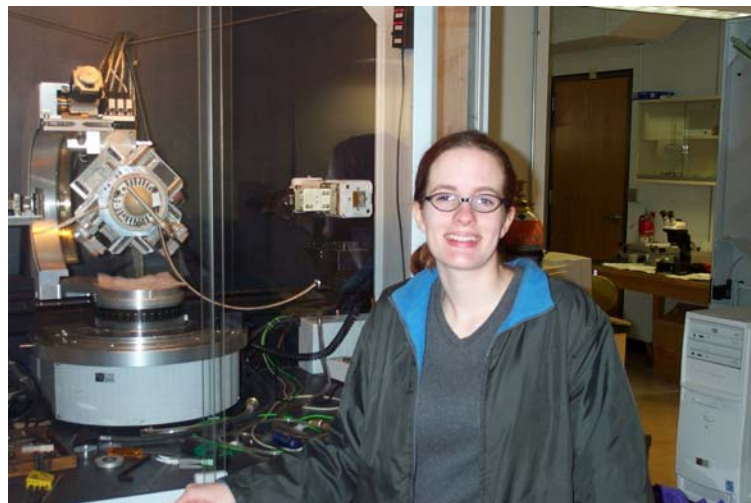
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Education:

Seven undergraduates (Stacey Standridge, Carolyn Feik, Mandy Dutton, Samantha Kehoe, Brandon Howe, Kristi Carlson and Astrid Albertini), four graduate students (Fred Harris, Polly Berseth, Ngoc Nguyen and Michael Fenci), one postdoc (Robert Schneidmiller), one research associate (Lance Miller) and one visiting faculty member (Brian McBurnett) contributed to this work. Stacey Standridge and Carolyn Feik are juniors, Brandon Howe is a senior, Mandy Dutton, Kristi Carlson, Astrid Albertini and Samantha Kehoe have graduated. Fred Harris and Polly Berseth will receive their Ph.D.'s in the spring and plan to work in industry.

Outreach:

Undergraduates work in a team environment and contribute scientifically as group members.



Stacey Standridge performs an X-ray Diffraction scan